NOTES

ON THE

MEDICAL TOPOGRAPHY

OF THE

District of Sarun.

By ROBERT RANKINE,

CIVIL ASSISTANT SURGEON.

"Fungar vice Cotis."—*Hor.*

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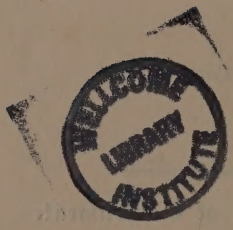
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To JOHN MARSHALL, Esq.,

Superintending Surgeon,

Dinapore.

Sir,

In reply to the Circular of the Medical Board, accompanied by the letter from General Casement, C. B., Secretary to the Government of India, calling for statistical information, I have the honor to forward my notes on the Medical Topography of the district of Sarun: during a long residence in this district, (nearly twelve years), I have had many opportunities of visiting most parts in the interior of it, and such observations, as I have been able to make, I have condensed in the accompanying report.

I have had access to the different offices, but with the exception of two old reports dated 1800, and 1801, I have been unable to discover any manuscript reports or journals, on the statistics of the district; from these and two late reports, returned to the Commissioner by the officers at the station, on the state of the jail, and currency of the district, I have derived some information, which I beg to acknowledge in this place.

From our imperfect knowledge of the statistics of the country, and the circumstance of no records being kept of births, deaths, &c. I regret to say, that I have found it impossible to furnish any information on these points.

singular, it forms nearly an island or more properly speaking it is a peninsula, being encompassed by three considerable rivers; the Ganges, Dewah, and Great Gunduck. In 1784, according to Major Rennell's mensuration, Sarun in both its divisions contained 5,106 square miles, of which area the particular portion distinguished by the name of Sarun comprehended 2,560 square miles, and Chumparun, in all its dimensions, 2,546 square miles. The former containing 16 pergunnahs or lesser districts, the latter 4, and comprising in both its divisions 19 large thannahs. The recorded number of towns and villages is 8,781. The extreme length of the district is about 120 miles, and its breadth about 90. The population is very considerable, and according to the most authentic accounts, it amounts to about 2,000,000, at the average rate of five individuals to a family, and the proportion the Mussulmans bear to the Hindoos, is about one-sixth of the former, to five-sixths of the latter; the number of village watchmen in Sarun alone is 6,769, and the land appropriated for their support, 3,187 beegas; the majority are paid in kind and coin, and the amount disbursed on that account annually is about 46,000 rupees.

Face of the country.

The district contains no mountains, no undulations of hill and dale, the surface is a general level, almost a dead flat from one

extremity to the other, thickly studded throughout with mangoe groves, so extensive in many places, as almost to deserve the name of forests, with intervening cultivated fields. It is intersected with numerous *nullahs*, many of which are considerable rivers in the rainy season, but during the dry season contain little or no water.

Sarun has for a long period been in the highest state of cultivation, and for its dimensions, is considered one of the most prosperous in the British dominions. In 1795 it appears to have been permanently assessed at Sa. Rs. 13,84,632 per annum ; since that period, however, the revenue has been considerably increased by annexations, reversions of estates to Government, and resumption of rent-free tenures ; I understand it now amounts to about eighteen lacks, including the abkarree, and duty on stamps. Revenue.

Sarun is too well cultivated to afford much jungle of any description, indeed there is none, with the exception of an inconsiderable portion, which extends from the frontiers of Goruckpore. Chumparun is on the whole productive, but agriculture there is still backward, and civilization less perfect ; perhaps, not more than one-third of Chumparun is under cultivation. This probably arises from its vicinity to the hills, and distance from the Sudder station : it has extensive forests containing every species of tree common in this Chumparun.

country and abounds with Saul, Sissoo, Toon, Mohow, Semul, &c.

There are also large uncultivated tracks of country in Sircar Chumparun, and the inhabitants are constantly changing, owing to the unhealthiness of the place—seldom residing more than two or three years in this part of the district; until cultivation becomes more extended, and the country better populated, the climate is not likely to become more salubrious. This part of the country is described by Hamilton, as having suffered severely during the great famine in 1770, when almost half the inhabitants are supposed to have perished.

The unhealthiness.

Rivers.

The principal rivers, connected with this district, are the Ganges, Dewah, Great and Little Gunducks, there are also several considerable hill streams. The Dinouty, Bâgmâttee, and Loll Begee, in Chumparun. They all arise from the hills, by numerous streamlets, and empty themselves into the Gunduck. The Myah and Dubbua also traverse the Sarun division, in various directions, and empty themselves into the Ganges. The Great and Little Gunduck are navigable for small boats, throughout the year.

Great Gunduck.

After the rains have subsided these rivers generally leave a large expanse of sand, perfectly free from deposits of an animal or vegetable description; the Gunduck not

unfrequently changes its course, leaving its former bed dry, whilst it forms for itself a new course, which it pursues until some unaccountable cause again impels it into a fresh channel—banks of sand are thus thrown up, which prove highly injurious to the country. Previous to the formation of the new line of embankments on the Sarun side, the country in the neighbourhood of this river was frequently inundated, and the expectations of the agriculturists suddenly blasted. The Gunduck in most places is from four to five hundred yards in breadth, in the rainy season much wider, and it flows with great violence. From the spreading of the stream and sands shifting, there is much difficulty in navigating the Gunduck at all times, and in the dry season, in many places, it only affords a passage for very small boats.

Great Gunduck.

The confluence of the Gunduck with the Ganges takes place at Hajeepore, where there is an annual fair held. The fair generally happens about the beginning of November, at the full moon in *kartick*. The horse fair is held on the Sarun side of the river, at Sonepore. The number of horses exposed for sale last year was estimated at 10,000; the demand for cattle appears to increase every year, particularly for those bred in the districts under the influence of the stud. A great improvement has taken place in this description of cattle, and the native breeders find a ready

Sonepore Fair.

sale for their rejected young colts and fillies, at remunerating prices.

At this period, the natives throng in vast multitudes to both sides of the river, for the purpose of ablution, and expiation of their sins ; the groves and fields in the neighbourhood are crowded in every direction, more especially those contiguous to Sonepore, which they suppose to be consecrated by the alleged visits of Hurreehur, a fakeer of the Utteet tribe, whose tomb is situated on the bank of the river ; at this time also, there is a race meeting at Hajeepore, which is much frequented by the ladies and gentlemen of the neighbouring stations, and the place altogether exhibits a "gay and festive scene," whilst the fair lasts.

Hurdeeah Chour.

To the north-west of Sonepore, there is a very extensive morass or bog called the Hurdeea Chour—it runs parallel with the Gunduck river, and appears at one time to have been the bed of a considerable stream. Previous to the formation of the embankment on the Gunduck, that part of the country was subject to annual inundations, and extensive lakes were formed from the river water, which abounded with wild fowl of every description. It is now almost entirely under cultivation, a few patches of rank grass only here and there are to be seen ; stagnant waters and extensive marshes however are frequently to be met with, in travelling through this district.

These *chours* are generally devoted to the culture of rice, and yield abundant crops.

Roads.

From local knowledge and enquiries, having been a resident in Sarun for nearly twelve years, and having visited most parts of it, I am of opinion, that good roads are much wanted in this district. The roads in the vicinity of the station of Chuprah are kept in repair by the Magistrate, and those in the interior by the Zeemindars. The Zeemindars consider this call on them to be unjust, and a great hardship, and they assert that it is unauthorized by any engagements, into which they have entered. The work is thus unwillingly undertaken, badly executed, and the *system* altogether attended with very bad consequences. The Zeemindar is compelled by the purwannah of the Magistrate, to see that the roads within his estate are repaired; to carry this into effect he compels the ryotts or daily labourers on his estate, to execute the work, and I have often conversed with these poor creatures, while engaged in this forced labour, and been told by them, that they had been working for days, or weeks, without receiving one farthing of remuneration. In reply to this, it may be urged, that there are no funds for this particular purpose—that something must be done to make the roads passable, and that the Magistrate has no alternative but to call on the Zeemindars. This I believe to be indisputable. The Zeemindars assuredly are the

Bad system pursued to keep them in repair.

parties chiefly interested; still the burden falls on the poor *cotters*. It certainly would be worthy of the attention of our enlightened Government to change this state of things.

In the Shahabad District, I understand funds for this particular purpose were provided at the formation of the decennial settlement.

Suggested improvement.

Good roads being once made, I would recommend, in order to secure them from neglect and injury, that the superintendence of them be placed in the hands of some qualified uncovenanted European with a small salary, and under the immediate direction, and control of the Magistrate, or Road Committee. This superintendence might also extend to the bunds in the District.

Route to Goruckpore.

The great road from Chuprah to Goruckpore, via Derowly, is wretchedly bad; that leading to Goruckpore via Barragong is not much better, and in many places so narrow as scarcely to be passable for wheeled carriages, and besides having deep ditches on each side. On this road several bridges are much required, more particularly across the nullah at Sewan Allee Gunge, an extensive Mussulman town; a ferry boat plies here in the rains, and many accidents occur—two years ago, a boat sank in crossing, and to the best of my recollection, about ten lives were lost. These remarks also apply to the Govind Gunge and Bettiah roads. From Chuprah to the Eastward,

ward, as far as Sonepore, a distance of about thirty miles, the roads are in excellent repair, —and passable for wheeled carriages, nearly the whole year; to Cheran and Sharpoor Ghat, on the Ganges, the direct route to Patna and Dinapore, the roads are also very good. The road leading to Rewah Ghat, on the Gunduck, underwent a thorough repair about six years ago, and six excellent bridges across the different nullahs, were built by the Superintendent of Public Works, at the expense of Government. This road leads to Tirhoot, and is of considerable importance; a very little expense would keep it in good repair throughout the year. The road leading to Sutter Ghat, on the Gunduck, which is the high road to Chumparun, is hardly passable in many places, for five or six months in the year; it is of great consequence that this road should be made good, and kept in thorough repair—now that a Joint Magistrate has been established in Chumparun, (with reference to the extensive jurisdiction of Sarun,) the communication will be considerably increased; several bridges are urgently required on this road to make it passable for wheeled carriages, during the rainy season. In Chumparun the case is very different; the roads there are excellent, and kept in good and substantial repair by the Indigo Planters, at their private expense. From Meissey, the most eastern part of Chumparun, to within a few coss of Bettiah, a distance of nearly fifty miles, it is impossible

Route to Tirhoot.

Route to Chumparun.

Roads in Chumparun.

to desire better roads, indeed, as far as the influence of the Planters extends, the roads are in capital order; from Bettiah to Bhogga there is little intercourse, and the road is in many places a mere pathway covered with turf.

The Zeemindars for the most part look only to the advantages immediately to be derived from their estates, and I believe it very rarely happens, that any of them endeavour to improve their property for the benefit of their posterity: there are few instances of their making or repairing the cross roads from one village to another, and if the high roads are indifferent in many parts of Sarun, the cross roads are wholly neglected. For six months in the year, the inhabitants in most places are obliged to transport the produce of the land to the neighbouring markets, on the heads of coolies, and when it is considered that 20 seers is the utmost, a man can carry, for any distance, the disadvantages and miserable shifts, not to mention the expense they are put to, in disposing of the produce of their fields, may be easily imagined. There are few circumstances in the condition of this country which strike the observer more forcibly, than the absence of good roads, even in very considerable thoroughfares; nevertheless the Natives seem content with their lot, their hopes and aspirations appear rarely to extend beyond their actual and pressing wants.

Cross roads.

Ferry fund.

The Ferry fund of the District, amounts to between fourteen and fifteen thousand Rupees per annum: in my opinion, it could not be better applied, than in making and repairing, effectually the roads of the District; a moiety of it would afterwards with good management be sufficient to continue them in repair.

Nepaul Dâk.

I am not aware of any public Dâk, that passes through this District, with the exception of the one to Nepaul—the Dâk and supplies for the Resident of Catmandoo go direct from Patna, and pass through Chumparun to Segowly; from thence they are carried across the *Tarai*, by means of Dhangers, at all seasons, with impunity. The exemption of this class of people from the injurious effects of malaria is well known, and indeed, is considered a wonderful phenomenon, in the physiological history of the human race.

Himmalya mountains.

From all the northern parts of this District, the lower range of hills is seen very distinctly; over and beyond them, the lofty snowcapped Himmalya mountains afford a delightful prospect. These mountains are seen distinctly sometimes, from the cantonments at Dinapore, a distance of at least 150 miles; but this need hardly excite wonder, when we reflect, that Sir William Jones tells us, he saw the *Chumulary* mountains from Bhaugulpore, a distance of 244 miles, and Bruce saw mount *Ararat* from Derbhend, a distance of 240 miles.

Tanks and wells.

On the subject of tanks I have but few remarks to make; there are very few either about the Station, or, in the District, and in fact they are not much required. The principal towns throughout Sarun, and indeed throughout Behar, are situated near the banks of rivers, independent of which, they are all supplied with wells;—generally the subsoil of the District is favorable, and there

Depth of water.

are not many places where the depth of sand offers any serious obstacle to the sinking of wells; the water is found at various depths, from 30 to 60 feet in different parts; at and in the vicinity of Chuprah it is found about 30 feet from the surface. A *kutcha* well of six feet in diameter costs from eight to ten rupees, and may last for two or three years, but this much depends on the nature of the subsoils; a *pucka* well of the same size will cost from one hundred, to one hundred and twenty-five rupees, and it lasts according to the quality of the masonry, from twenty to one hundred years. The well water throughout Sarun is pure and wholesome, and is in general use; it is also used for the purpose of irrigation.

Soil.

It need hardly be observed, that in so large a District as Sarun, the nature of the soil is exceedingly varied, and its vegetable productions are consequently numerous; that it is not inauspicious, is well known. The general soil of Sarun is a mixture of fine mould and sand: near the station there is a good deal of the

bangar or clay soil, calculated for the production of gram ;—the low lands in the vicinity of *nullahs*, occasionally covered with water in the rains, and fertilized by alluvial deposits, are known by the name of *khâdir*, and calculated for the production of wheat and barley ; these lands are liable to occasional flood, and can be only cropped once in the season, and that during the *rabi* or spring ; the higher lands consisting of a rich loamy soil, are calculated for sugar-cane—these lands (except where sugar-cane is planted) are frequently cropped twice and three times a year. In Chumparun the soil is for the most part alluvial ; it retains its moisture well, and is particularly favorable for the production of indigo —by the sketch map which accompanies this detail, it will be seen that the indigo factories are very numerous, in this part of the District, and in general they seem to be thriving. Indigo.

The natives have an endless variety of names for the different quality of soils, almost all bearing different names, in different pergunnahs.

The District produces no mines or minerals of any description, that I am acquainted with ; the country is so level, and open as to completely discourage every idea of mineral discovery—its fertility is all on the surface.

In the neighbourhood of villages, where the poppy is usually sown, irrigation from wells Irrigation.

is general throughout Sarun, and the end is obtained by the most laborious means; the machines in use for this purpose are of different kinds, the most common where the water is of a moderate depth is the *dhenklee;* it consists of two posts or pillars of wood, or of mud and bamboos about six feet in height, and about three feet apart, with a horizontal piece of wood extending from top to top, to which is suspended a long slender lever, formed of bamboos, having at one end a weight, chiefly composed of mud, and at the other, a long piece of rope, to which a conical shaped vessel, called a *khooree*, is attached. There is another machine called a *doen*, used where it is only necessary to raise the water a few feet, it resembles a very small canoe, to each end, of which a cord is tied, this is worked by two men, who holding two of the cords throw up the water.

Machines employed for

In the process of irrigation the land is divided into small squares, by ridges of earth, or into furrows, and the water running along a narrow gutter, is admitted into these squares or furrows. In the gardens about the station the *mōt* is commonly used.

Many of the high lands, where artificial irrigation is resorted to, produce three crops every year; first the summer, or *bhadoo* crop, consisting of millet, maize and different kinds of esculent plants;—second, the autumnal or khurreef crop, consisting of Indian corn,

Agriculture.

kodoo, &c.—thirdly, the spring or rubbee crop, consisting of wheat, barley, peas, gram and various other kinds of grain, of the liguminous kind. No manure of any description is applied to the soil, except perhaps to a few beegas close to villages, or occasionally to a sugar-cane field, nothing but a good, deep soil and a favorable climate, could stand the constant and various calls made on it; in unfavorable seasons, however, there is no doubt, that much of the failure of crops is owing to a want of heart in the soil.

Productions.

Agricultural pursuits form the chief occupation of the inhabitants of this District, and they are allowed by the best judges to be excellent cultivators. The produce consists of wheat, barley, oats, rice, gram, maizes, peas, Indian corn, and other grain of the culmiferous and liguminous kinds; poppy, cotton, hemp are also cultivated, for which the soil is well calculated, as also for the culture of every description of esculent plant—oil seeds of different kinds, such as the castor, mustard, linseed, teel and poppy seeds, form articles of commerce, and of late years have been in great demand.

Exportations.

The vegetation is rapid, and the produce sufficiently abundant for home consumption, and for large exportations of wheat, barley, cotton, hemp and tobacco, chiefly for the markets of the lower Provinces.

Commerce and manufacture.

Commerce and manufacture have not been so much attended to, the former being limitted and restricted to the productions of the soil, in its natural state.

Manufactures.

The manufactures consist of opium, indigo, saltpetre, khari-noon, or (bitter salt,) sugar and coarse cloth; the first is a declared monopoly in the hands of Government, and is committed to the supervision of an Uncovenanted Deputy and Native Agents, established by the authority, to whose department they respectively appertain.

Opium.

The cultivation of the poppy is very extensive, and in both divisions of this District it amounts to upwards of 50,000 beegas. The poppy lands are prepared in October, and sown in November and December, while the moisture is in the soil; throughout Sarun irrigation is indispensable; in Chumparun, where the soil retains its moisture much longer, it is seldom used or indeed required, but, I believe the produce from the irrigated fields is greater. The drug is prepared by those, who promote the culture of the plant.

In a favorable season the poppy in Sircars Sarun and Chumparun averages from four to five seers of opium to the beega, but in the rich lands near villages, it frequently produces eight or nine seers per beega. The papaver album, is considered the best kind

and is, with few exceptions, the kind from which the opium is obtained. The quantity supplied from this District last year amounted to about 8,000 maunds, and in point of quality I believe, it is equal to any manufactured in the Province of Behar.

The culture of opium is very profitable to the growers, when they have good produce, and should the quality be not equal to the expectations of the Agent, it is never thrown on their hands, but a percentage I believe is levied upon it.

Indigo.

The quantity of Indigo furnished by this District, on an average of season, amounts to upwards of 10,000 maunds, nine-tenths of which are cultivated in Chumparun.

Saltpetre.

The District produces saltpetre in great abundance; there is scarcely a village in either Sarun or Chumparun, that has not got its small saltpetre factory: the quantity produced annually is estimated at 200,000 maunds, and its price is generally from four to five rupees per maund. The extensive wastes in Chumparun abound in nitre, and other kinds of saline matter, such as sulphate and muriate of soda. Mr. Stephenson, a practical chemist, and late Superintendent of the Hon'ble Company's saltpetre factories in Behar, published a valuable Treatise on the manufacture in 1835. The section of this work, which treats of the "development of saltpetre" is interest-

ing to the general reader, and is applicable to many parts of Chumparun: he says—"In "the northern parts of Tirhoot bordering on "Nepaul, are extensive sterile wastes, that "develope saltpetre in abundance, as well as "other kinds of saline matter, such as sul- "phate of soda, which is always most abun- "dant, and what is called *reha muttee* by the "Natives, from the efflorescence of which they "manufacture a salt called *karry noon*. This "saline matter lies in patches of various ex- "tent, and may be known from the barren "appearance of the surface of the ground, "which from the very circumstances of the "soil containing a redundancy of these salts, "is rendered unproductive for the growth of "vegetable matter, and consequently is not "cultivated by the Ryots or native farmers. "These patches occasionally contain a redun- "dancy of saltpetre: sometimes sulphate and "muriate of soda are most predominant, but "in all, a mixture of the above salts is always "to be found."

Development of saltpetre.

"During the rainy season, when large tracts of this country are laid under water, by the rains and river floods, solutions of these salts come in contact with each other; some are decomposed, and new combinations are formed, and consequently new salts produced from these combinations. When the rains have ceased, the dry season has commenced, and the atmospherical evaporation is in full force, the redundant moisture quickly dis-

appears. Then the saline matter, (and of course saltpetre,) developes itself, most frequently in the form of a white florescence on the surface of the ground. Thus nature keeps operating in her grand laboratory, decomposing, recombining, and reproducing, from season to season, and from year to year, and thus she will proceed, alternately creating, preserving, and destroying, to the end of time." "The karry noon or sulphate of soda, is found in almost inexhaustible abundance, during the dry season in this District, and forms a considerable native article of commerce, it is given to cattle as a medicine, and used in the process of dressing, and preparing raw hides, it is a very cheap article, it sells from 12 annas, to one rupee per maund."

Karrynoon or sulphate of soda.

It may not be out of place here to mention another kind of salt, muriate of soda, which is manufactured in this District in great abundance, and used for culinary purposes, amongst the poorer classes—it is obtained in the process of making the nitrate of potash—it sells at about one rupee per maund, and is mixed with the imported salt, called *pungah*, by the retailers, in the proportion of five seers to the maund; the weight used is 80 siccas to the seer.

Culinary salt.

The annual importation of salt into this District I am informed, has hitherto averaged 150,000 maunds, and the retail selling price is about five rupees per maund. That there is

Imported salt.

a considerable quantity of illicit salt introduced into the District, I believe there is no doubt, principally from the westward; the respectable salt dealers state, that this illicit trade is extensively pursued at the junction of this District with Ghazeepore and Goruckpore. This salt is eagerly purchased at 2 rupees per maund, and retailed I believe at the same price as the salt imported from the eastward.

An absurd report has lately obtained amongst the natives, that the imported salt in a state of solution deposited a sediment resembling pounded bones, and an idea got abroad, that the bones of cows, &c. had actually been mixed with the salt. As may easily be supposed this ridiculous story has excited a prejudice against the use of the article, amongst a large class of the community,—the Hindoos fearing that the use of the salt would injure their caste declined to purchase it, and the prejudice has been so general, for the last twelve months, as seriously to affect the demand and value of this commodity.

Sugar.

The manufacture of sugar has rapidly increased in this District, within these last few years, and the demand seems to keep pace with the increase; it may therefore be considered as one of its valuable staple commodities. In a report furnished to Government, by the Collector in 1814, the estimated quantity of sugar manufactured in this District was

1,000 maunds; last year, I understand the exports amounted to near 50,000 maunds. The best description of sugar is manufactured in the western part of the District, near Bhoggah; it sells at the rate of nine or ten rupees per maund, of 95 siccas or tolas to the seer.

Silk.

The introduction of the silkworm was tried last year experimentally by a Mr. Zeigler, an intelligent and enterprising indigo planter in this District, and he informs me that it has fully answered his expectations, and that he intends to increase his establishment. I believe this is the first attempt, that has been made to introduce the silkworm into northern Behar.

On reviewing the productions, and taking an estimate of the wealth drawn entirely from the soil, I think the District of Sarun will be found to be a valuable possession. The most valuable possessions in India, I believe, are still considered those near the sea.

Towns.

Chuprah, the Civil Station of Sarun, is a town of little breadth, but extending for about a mile or more along the left proper bank of the Ganges, the stream of which recedes in August or September, and leaves a large expanse of sand partly bare and dry, and partly covered with shallow sheets of water. It is situated in latitude 25° 46′ North, longitude 84° 46′ East, 30 miles W. N. W. from Patna, and 24 miles from Dinapore. The

Station.

station is easy of approach at all seasons; during the rains a considerable nullah runs close to the town, and the communication by water would be most materially improved, could it be kept open throughout the year; from October till July it is closed. The Dewah, a large and rapid river, unites with the Ganges at Revelgunge, about a mile above the head of the nullah, and the sands are constantly changing. There would be many difficulties to surmount in establishing this communication by the nullah, during the whole year, and perhaps an Engineer Officer could alone be a competent judge of the practicability of effecting this desirable object; while the *nullah* is open, it affords a passage for every description of boat. In the dry season, the Ganges does not approach nearer, than about two miles from the station.

Approach by water.

To the east, Chuprah unites with another considerable town called Sahibgunge. This town again joins Gobingunge, and Gobingunge unites with Cheraud and Dooregunge; from the river they resemble one long straggling Town, extending from Dooregunge to Revelgunge, a distance of fourteen miles.

Suburbs.

Our predecessors, the Dutch, appear to have had a considerable establishment at Chuprah, about the beginning of last century,—a large saltpetre factory is still in existence, which they established, and which was worked by

Dutch Factories.

the Hon'ble Company's Agent, till within these few years.

The Dutch factors' houses are yet standing, near the middle of the town, but rather in a dilapidated state—in the burying ground also, there are several tombs built in the native style—a large one bearing the inscription of some initials and A. D. 1712—it has thus stood the pelting of the *storm*, for one hundred and twenty-five years, without visible repairs of any description, and is now in excellent condition, with scarcely a brick out of its place, no bad proof of the goodness of the workmanship, and superior quality of the materials.

Level.

If a careful survey were made of Chuprah, I am inclined to think, its level would be fixed a very few feet above the river. During the rains when the *nullah* is full, the road to the eastward of the town leading to Patna is frequently under water, and on several occasions I have known houses in the town carried away by the floods; the river rises so high at times, that it was found necessary, a few years ago, to build a floodgate to the eastward of the town, at the mouth of a ditch, which opens into the nullah, to prevent the station from being inundated; on several occasions, when the water has risen higher than usual, and the floodgate has been neglected to be shut, I have seen the river water suddenly fill all the ditches, about the station,

Sluice gate.

and obstruct the roads. Chuprah is a small station; with the exception of the public offices, there are only four puckah dwelling houses, and as many bungalows, for the accommodation of the residents.

Houses.

Building materials.

Materials for building are reasonable, and at Revelgunge, which is only six miles from the station, every description of wood is procurable—it is brought from the Goruckpore District, down the river *Raptee*, and other streams, during the rains; besides wood, Revelgunge is a great mart for country produce of every description.

Lime.

Shell lime is procurable in considerable abundance, the land shells are found in the *chowers*, and collected by the women and children; it is sold at the rate of from 30 to 35 rupees per 100 maunds. Lime is also procured from the *kankar*, which is found in every direction about Chuprah: this substance besides affording a building cement, is very useful for road making: 100 parts yield upwards of 70 parts of the carbonate of lime.

Population of Chuprah.

The town of Chuprah contains about 8,700 families, which, at five individuals to a family, give a population of 43,500.

Like most of the towns in Behar, the houses are so huddled together, and the streets so confined, that it is impossible to reduce them

to any regular order ; there is only one street, called the Burrah Bazar, where a buggy or hackery can pass, and that, with some difficulty ; the other streets are so narrow, as to render a passage through them on an elephant, or in a palanqueen almost impracticable ; fortunately the station is separated from this scene of confusion and filth—an European may reside all his life at the station of Chuprah, and see nothing of the town, unless he chooses. The houses, (with the exception of a few belonging to mahajuns, and the wealthier classes,) consist of mud walls, and tiled roofs. —About forty years ago, an order was issued by the Magistrate of Sarun, that all houses in the town and its vicinity should be tiled, since which period scarcely a fire has occurred ;—were orders of this kind strictly enforced, I am convinced fires would seldom happen, and the benefits that would accrue from the security of property, &c. are obvious. The inhabitants of this town have experienced the beneficial results of the measure, which is entirely to be ascribed to the orders having been impartially and rigidly enforced. The houses of the baboos are generally brick built, in the form of a square, with very small windows, and verandahs inwards.

Houses and streets.

From the town, the bank slopes towards the dry bed of the nullah, which is always during the dry season covered with ordure, and animal filth of every description. The smell diffused in the air, in this part of the town, is

most intolerably offensive to passengers. *The* work of the scavenger is left almost entirely to the unclean beast of the field, and the fowls of the air, till the annual return of the floods.

Neglect of ventilation.

It is to be regretted, that large towns are not built with some regard to ventilation, cleanliness and regularity ; perhaps the authority of the Magistrate cannot be interposed in native arrangements of this kind, without risk, but projects to improve the city of Calcutta are every day carried into effect.

The greatest improvement that could be made, is the widening of the streets ; this would tend greatly to promote the general health of the inhabitants, renew and purify the confined atmosphere, render conflagrations less destructive, and check the generation of those myriads of insects, which constantly annoy the inhabitants.

The lawgivers of the east have strictly inculcated the ablution of the body, but entirely neglected to enforce the necessity of a free circulation of air in the habitations of the natives in this, albeit, one of the hottest, climates in the world.

Goadnah.

Goadnah, Revelgunge, and Simmurreah are all a continuation of the same town, the latter extends along the Dewah ; at this place there is a large annual fair held, at the same time, as that at Hajeepore ; a great multitude meet for

the purpose of ablution at the junction of the Dewah with the Ganges; at this period and for the space of three or four days the district appears almost drained of its population. These fairs present a very good sample of the manners and amusements of the lower orders, and in some respects resemble similar sights in England.

Annual Fair at Revelgunge.

These festivals seem to do away with, for the time, most of the distinctions of caste, and the separation of the sexes. Booths are erected on either side of the street, formed for the occasion, on the banks or dry bed of the river, to display with better effect the articles for sale; "there may be seen silks, cloths, dried fruits, and other productions of Cashmeer, and Persia, and the several manufactures of India; as in England also, may be viewed all sorts of amusements calculated to please youth, toys of every description are exposed for sale, dolls, the squeaking trumpet, the tinsel sword and gun; kings and queens innumerable may be bought decked in gorgeous array, only differing from those exhibited at an English fair, in their being composed of sugar, instead of ginger bread. At one place a bear or other wild beast become domesticated is to be seen, whilst the facetious and mischievous monkey, riding on a goat by way of a charger, is always present where fun is to be looked for; jugglers, nautches, puppet shows, and the attractive ups and downs, and round abouts, filled with boys and girls

laughing, as they ascend the air, in their little swinging boxes, are met with on all sides."

Missionaries.

In the midst of this scene may be seen one or two zealous missionaries expounding the Christian religion, surrounded by a number of clowns with open mouths, who do not understand one word that is said, and who are probably attracted merely by the hope of gain, one or two converted natives always accompany these well meaning missionaries; but I fear they have assumed a name, and a creed of which they are perfectly ignorant. It is not necessary here to enter into an enquiry, regarding the success of the missionaries in the work of conversion at these fairs; they have a different task to effect with the Hindoo, who, like "Shylock will not eat with us, will not drink with us, much less pray with us," whom we offend daily by killing the animal, he holds most sacred, and by eating of the bodies, into which the souls of his progenitors have transmigrated.

Manjee.

Manjee is a considerable town situated a little above the confluence of the Dewah with the Ganges, about twelve miles from Chuprah; near this place is a remarkable Burr tree, of which the following are the dimensions, as given by W. Hamilton—"diameter from 363 to 376 feet, circumference of the shadow at noon 1,116 feet. Circumference of the several stems, fifty or sixty in number, 921 feet." Since the above measurement was taken in

1820, the tree has considerably increased in its dimensions, and it now occupies about five beegas of land.

Sewan.

Sewan, or Alleegunge, is also a considerable town, situated about 36 miles from Chuprah; its population is principally composed of Mussulmans. In this vicinity, a sort of crockery is made in imitation of Staffordshire ware, from a species of black potter's marl; a considerable traffic intercourse is carried on, between this town and Goruckpore.

Bettiah.

Bettiah.—This town stands about 70 miles from Chuprah, W. N. W.; it is the seat of Rajah Annund Kishwar Sing. A Roman Catholic Priest resides there, and in the vicinity, there are three villages of native Christians,—Padre Leon is the present vicar. The tenure of these villages is Lākheraj, and it is held, by a *Sunnud* from the Governor General in Council, dated 1784, the proceeds being devoted to the repairs and lighting of the Churches, of which there are two, to the support of poor Christians, and to the repairs of the Padre's house. A sum of money varying in different years, between one-third and one-sixth of the proceeds of the villages is appropriated to the support of the Padre.

Native Christians.

The establishment is a branch of a mission located at Agra, in direct communication with a society at Rome, whence the principals are supplied. The number of Christians amounts

to about 1200, and the lands held by the Padre exceed 800 beegas.

Soogouly. Soogouly stands on the south side of the little Gunduck river, and is the place from whence the Nepaul Dâk starts, on its way across the Tarai; this town, and Bettiah are both in Chumparun.

There are many other towns in the districts, not requiring particular notice.

Villages. The villages in the interior of the district are much neater, than those of Bengal; the houses are all mud walled, with thatched roofs—each village is surrounded by small fields, nicely cultivated, producing tobacco, sugar cane, mustard and castor seed.

Public buildings. Public buildings—with the exception of two brick-built houses, and a circuit bungalow used as public offices, the jail and hospital, there are no public buildings of any description at Chuprah.

Gardens. The houses at this station are well supplied with gardens; the produce consists of every kind of vegetable in great abundance, and all the variety of country fruits; the English apple, strawberry, and the vine are also to be found in most of the gardens; the flavour of the apple is equal to any I ever tasted in England, and many of them are, of a very respectable size—measuring seven, eight

and nine inches in circumference. I recollect one season, that a single tree produced one hundred and thirty.

Population.

The population of this district I have estimated at 200,000; but it is difficult to form a correct judgment of the population of a large district, where no registers of births, and deaths, are kept; this census therefore can only be looked upon as an approximation to the truth. In 1801 when the Marquis of Wellesley issued his statistical enquiries, the Judge and Collector each returned their estimates of the population, which agreed in giving an aggregate of 1,200,000, as the total number of the inhabitants; since that period, a great increase to the population has taken place.

Mode adopted for ascertaining the population.

My estimate is grounded on reports furnished by the different thannadars, specifying the number of villages in each thanna, the number of houses in each village, and taking the average rate of five individuals to each house;—but there is much difficulty in obtaining accurate returns—the natives having a great aversion to investigations of this description; the ratio the males bear to the females I am unable to state, it is almost impossible to get correct returns of the female members of families, particularly among the Mahomedans.

With the exception of three Christian villages, and a few European settlers, the popula-

Computed proportion of Hindoos and Moossulmans.

tion consists exclusively of Hindoos and Moosulmans, and the proportion is computed, (by the most intelligent natives I have conversed with,) at six of the former, to one of the latter; nearly all the principal Zeemindars, and influential natives are either Brahmins or Rajpoots;—Baboo Chutturdharee Sahee lately created a Rajah, Rajah Annund Kishwur Sing, and the Ramnuggur Rajah are the most extensive land-holders.

Inhabitants.

The great mass of the inhabitants are cultivators of the soil, and compared with Bengal the race of men are much fairer, taller, and more robust, but morally, and intellectually, I believe there is little difference; about Chuprah there are likewise many expert mechanics, blacksmiths, and carpenters in particular.

Women.

The better class of women belonging to this part of the country are seldom seen by Europeans, excepting at the great fairs; when young, they are very fair and comely, the girls wear a very small ring in their noses, called the *bolack*, which is removed, when they arrive at the age of puberty, it bears the same explanation as the *silken snood*, formerly worn by the Scotch girls, till they became brides.

Futteh Sahee irruption.

Since the time of the celebrated rebel Futteh Sah, (about 50 or 60 years ago), the inhabitants of this district have continued well disposed, and firm in their adherence to

the British Government. Futteh Sahee's history is too well known to need recapitulation here; from his retreat in the jungles bordering the Goruckpore frontier, he made frequent incursions into this district, and gave Government much trouble; he died from fever, caught in the jungles, and on his death taking place, his followers dispersed. The estates and title are now enjoyed by his grand nephew Maha Rajah Chutturdharee Sahee, a highly respectable, and much respected man, commanding wealth, and proportionate influence.

A regiment of native infantry was stationed for a considerable time after the death of Futteh Sah, at Burragong, a large town about fifty-six miles west of Chuprah, where several of the officers' houses are still standing.

Burragong cantonments.

Judging from the great number of old mud forts scattered throughout this district, its inhabitants at one period must have been a very warlike race, almost every considerable village having the remains of a fort or castle; these were probably built, when the Maharattas were in the habit of levying their contributions every year; but the Zeemindars too, in former times, decided all their quarrels, and boundary disputes with the sword, and even now, there is a little of the old leaven left, they are still fond of an appeal to the sword and club: aggravated affrays attended with bloodshed have not been unfrequent, and loss

Warlike character of the inhabitants.

of life was a very common occurrence, some years ago,—much more so than at the present time; the activity of the police, and judicious measures of the authorities at the station have greatly reduced these fatal quarrels.

A great number of recruits for the native army are drawn from Sarun—I have at different times seen a native officer marching through the station, with thirty or forty recruits, all fine, tall, athletic young men: the Mussulmans I believe are the most enterprising: the Hindoos prefer to walk in the ways, and to follow the occupations of their fathers; —but the love of his native soil is said to be inherent in man, and this feeling is strongly exemplified in the Hindoos—I have known many tempting offers made by the grantees, in the neighbouring district of Goruckpore, to get the poorer classes to settle on their grants, without success—there are very few instances indeed of their migrating, but from necessity.

Their aversion to migration.

The public service seems to hold out the only inducement, and this preference cannot be attributed to their patriotic feelings, although they possess every thing worth defending in a country, freedom of employment, the participation of equal laws, liberty of person, security of property, and the uncontrolled exercise of religious worship.

Recruits for the public service.

The great majority of the inferior Zeemindars in this district, from various causes

Inferior Zeemindars.

have fallen into extreme poverty ;—many of them are little better than mere peasants ;—the minute sub-division of property, their proneness to litigation, the extortions practised on them by the mahajuns, to whom they are almost all deeply indebted, their own imprudence—expenses incurred at marriages, and festivals, have all concurred to bring them to a condition very little removed from beggary. Their poverty.

The labouring classes have not the means of improving their situation ; they seem to work, merely with a view to enable themselves, and their families to live, and when they are employed, their labor is not very amply rewarded—when they do receive a little money they are generally idle till it is spent : hunger seems to be the only stimulus to their efforts of industry—coolies or daily labourers, receive about three half-pence or two pence per day, according to the work they are employed on ; women receive about one penny per day ; —among the natives it is customary to pay them partly in kind, and partly in coin, but I understand, they are not so well paid by their own countrymen, as when employed by Europeans. Labouring classes. Wages of labor.

It is a very common practice with natives, to lend a rupee to a daily labourer, and to receive as interest, one day's labour, every month, which will amount at the end of the year to very little less than 75 per cent. ; an- Extortion practised on the poor.

other very common practice is, for a Zeemindar to lend a maund of grain, at the sowing time, to a poor ryott, and receive one maund and a half for every maund lent. This wretched state of poverty however is no bar to their marrying, and it seldom prevents a man from having a family of children: as soon as a child is weaned, it eats rice like its parent, goes naked for two or three years, and requires little care.

Labouring classes near Indigo Factories.

In the neighbourhood of the large Indigo Factories in Chumparun, where some thousands of the labouring classes are always employed, they are observed to be more comfortable, better fed and clothed, than elsewhere. I can vouch from my own knowledge of the fact, that many thousands of these poor creatures have this year been daily fed by the Planters, who were necessitated to import from Purneah large quantities of rice for the purpose, the rice crop in the Tarai last year having been almost a total failure. In the northern parts of this district the inhabitants almost entirely depend on their supply of rice from the Tarai, and in a favorable season, it is procured at a very cheap rate, 4 or 5 maunds for the rupee; but in such a season as this last, (only $2\frac{2}{10}$ inches of rain having fallen in ten months), when a scanty spring crop succeeded, the failure of their chief dependence, the rice crop, they have in many places, been on the verge of famine; when such a calamity occurs, very few except in the neighbourhood of

Cause of scarcity.

Indigo Factories are able to get work, they leave their houses, and being destitute of the means of living by industry, they are driven to subsist by begging, or by stealing, and when sickness is added to their poverty, they have nothing to depend on, but the precarious maintenance, or voluntary contributions of their neighbours.

State of the poor.

The cause of this poverty is intimately connected with the system of oppression, which exists amongst themselves, or lies in the relation, in which they stand to the soil, (which is the chief source of their subsistence), and their complete dependence on the Zeemindars. They are rackrented by the *Ticcadars*, or *Khutkinedars*, and many of the ryotts are mere cutters, whose labour in seed time, and harvest, is at the disposal of the Assamese, for the consideration of a hut, and a beegga or two of land.

Cause of poverty.

The class of mere labourers, who work for hire, is not very numerous.

The chief employment of the women, in doors, is carding and spinning of wool or cotton, for the purpose of making coarse cloth, for the use of their families.

Employment of the women.

When oppressed with sickness, or old age, and unable to work, there is a lamentable degree of distress amongst the poorer classes, they have no asylum, no poor house, no refuge for the destitute, no hospital, and they

lie on the cold ground, with little to cover them, until relieved from their miseries.

In seasons of scarcity the distress amongst the poor.

The European community, not in this district in particular, but throughout the country, know little, and in fact, have few opportunities of knowing the extent of physical suffering, among the native population in the interior, particularly in such a season of scarcity and sickness, as that which we have lately experienced; policy as well as humanity would seem to demand, that some organized plan should be adopted, in every district to ascertain the state of the poor, and to judge of the possibility of affording relief. Such a measure would eminently become a benevolent Government.

Schools and hospitals.

No schools have hitherto been established for the instruction of the natives, nor is there any hospital for the sick poor at the station of Sarun; with the aid of Government and the contributions of the community, I should think, both schools and hospitals might be easily instituted. The majority of the inhabitants are grossly ignorant, and it would be worthy of an enlightened Government to make some effort to diffuse education amongst the lower classes, and thereby produce a higher state of civilization amongst a class of people, standing much in need of improvement.

Want of hospitals.

The want of an hospital, for the reception of the sick poor, I have often had to deplore;

many of the inhabitants, with chronic diseases or requiring operations to be performed on them, come from the interior for medical advice. Some of them travel perhaps 40 or 50 miles ;—the little money they bring with them is soon spent, and they are forced to return before a cure is effected, and while under medical advice, they not unfrequently are obliged to live under the trees about the Station. No doubt the same observations, on the state and circumstances of the people here, will apply with equal force to hundreds of other places, that could be mentioned—but I should hope, and trust, that the extensive population in Chuprah and its vicinity, the great number of poor and sick, who visit the station for medical advice, and the total want of native practitioners of any repute, will operate as legitimate grounds to entitle the inhabitants to some consideration.

Comparative comfort of the Burmese.

While on service with the expedition in Ava, during the late war, I was forcibly struck, not only with the superior comfort enjoyed by the lower classes in their dwellings, but the superior intelligence and physical qualities of the inhabitants, contrasted with this country.

In the numerous towns and villages, the Army passed through, on its long march from Rangoon to Prome, I do not recollect a single village or house, in which the poorest inhabitants lived, that had not the floor raised a

few feet from the ground, and this was the case, even on the high banks of the Irawaddy. In many situations, in that country however, it must be confessed, that this construction of building is essentially necessary, on account of the heavy rains, and sudden inundations from the river. The Burmese are gross and uncleanly in their food, compared with many castes of natives in Hindoostan; but they are a much finer race of men, they are more athletic, more active, and of a much more lively disposition, the poor are better fed and clothed, and the greater number can read, and write the vulgar tongue.

Moral character and state of civilization.

In the present state of civilization in this country, which according to a late writer is only to be compared to the state of Europe, in the feudal ages, it would be unfair to judge of the moral character, manners, and habits of the people, by our own standard. The division of the community into castes, and the climate operate, it has been said, as an insuperable barrier to improvement, by confining every individual to that sphere of life and action, in which he happens to be born. In the large towns, much profligacy, vice, and depravity are to be found, but in the interior, where debauchery and dissipation are less known, the people live more industrious and virtuous lives, and fewer depredations are committed on the public. Thefts or burglaries are very seldom committed on the property of Europeans, notwithstanding the temptations, to which the

natives are exposed, and the little precaution taken towards their prevention. In a season of scarcity, such as this last has been, grain stealing has been very common—I believe nine-tenths of the vices and crimes of the people to proceed from their poverty, ignorance and superstition, and it can hardly be expected, that they will grow much richer or wiser, in the present state of things: Mr. McCulloch says, "a poor people are never "refined, nor a rich people barbarous; it is "impossible to name a single nation, which "has made any distinguished figure in philo- "sophy or the fine arts, without being at the "same time celebrated for its wealth; the "age of Pericles and Phidias was the flou- "rishing age of the Grecians, as the age of "Petrarch and Raphael was of Italian com- "merce."

Much might be said on the subject of the moral character of the natives, but it is not my intention to enter into the discussion here. Examples are not wanting, amongst the educated Hindoos in Calcutta, to prove, that their minds, when unshackled by caste, are susceptible of the best feelings, and to shew farther what may be expected from the introduction of European example, learning and science, among the mass of Indian society.

Habits of the natives.

The indolence and apathy of the Hindoos, the inartificial and natural style they live in, as far as regards their houses, furniture, &c.

their proneness to litigation are all matters of history, as also their diet, and their partial enjoyment of the necessaries of life, for what we understand by the comforts of life, they know but little of; in the interior parts of the country, they all approach much nearer to one standard in character, manners, and habits, than in almost any other country in the world.

Tobacco.

Tobacco is in general use amongst them; at seven or eight years of age they commence smoking the herb, and some castes eat it; it affords the poor man a cheap and sober refreshment, and probably often restrains him from less innocent indulgencies. Drunkenness is exceedingly common among the lower classes and castes, and is a vice, when once acquired, they scarcely ever leave off. The *Daroo*, a spirit distilled from the ripe petals of the Mowah tree mixed with *goor*, is the spirit generally drank, and is most injurious to the health of the lower orders. The higher castes consider drunkenness disgraceful, and although some of them are addicted to the vice, I believe it to be very rare, and always kept as secret as possible.

Drunkenness.

Use of Opium.

The use of opium is very common, but the proportion of those devoted to its use is not so great, as those who indulge in habitual drunkenness; the opium eater is called *affeemee*, and I am not aware, that any particular reproach or obloquy is attached to the appellation; this is perhaps owing to its being applicable to

many of the higher classes. It is always taken in its crude state, at first the dose is about a grain, but the *affeemee* soon finds it necessary to increase it to sixty times that weight: he generally takes the dose at night, and while under its influence, he is perfectly happy, his mind is tranquilized and cheerful, and his head clear. I know several Zeemindars, who transact all their business at night, while under the influence of the narcotic. In the morning the loss of the accustomed stimulus is felt, pain in the limbs, languor, yawning, suffused and watery eyes, and if deprived of it altogether, a total want of sleep are the usual consequences.

Much in use amongst the higher classes.

Among the Thug prisoners in the Chuprah jail, the habit of eating opium is almost universal; out of about 140 of these prisoners now in the jail, I feel certain there are not more than 18 or 20 exempt from the habit; from not being able to procure a sufficient supply of the drug, many of them have suffered severely from loss of appetite, bowel complaint, and insanity. Ganja and the leaves and capsules of the hemp plant have long been used by the natives, and are frequently mixed with the hookah tobacco, to increase its exhilarating and intoxicating effects.

Also amongst the Thug prisoners.

Ganja.

Tea is getting more into use than it formerly was, among those who can afford to purchase it, but their method of using it appears strange to an European taste: after it is

Tea.

infused, they mix a little salt, ghee, cardamum seed, and cloves with it, and then drink it off; they use it chiefly in the cold weather, at other seasons they think it too heating.

Amusements. The natives have no mental amusements, and are too indolent to practise gymnastics of any kind, that I am aware of; in this respect, and many others, they differ widely from the Burmese, who are very fond of wrestling, foot ball, &c. The chief amusement among all classes seems to be singing and the natch, and even these seem to produce very little excitement. Fishing is a favourite amusement with them, and seems to suit their temperament better, than any other kind of sport.

Gambling. Gambling—this ruinous vice I believe is carried to a great extent, in most of the large towns; among the higher classes it prostitutes every principle of honor and virtue, and among the lower, the necessary consequences are idleness, theft, and debauchery.

Seasons. The climate of the northern Behar has been said to form a medium between the dry parching heat of the Upper Provinces, and the close moist atmosphere of Bengal; in some respects this is correct. The seasons are in general very regular; the west wind prevails during the day, from the middle of April, and then tatties become necessary; the hot wind blows strong for about a month or six weeks, at this season; the dry heat of the day however is

modified in some degree by the easterly wind, which sets in with great regularity a little after sun set, and blows fresh all night—the wind at this season, from the regularity with which it blows from opposite directions, is called by the natives the *dorus;* the east wind contains a much greater degree of moisture than the west, but the extent I am unable to state, not having a hygrometer in my possession. Violent squalls, and storms from the north-west, whirlwinds and clouds of dust, accompanied sometimes with rain, or hailstones occasionally occur; at this time the thermometer ranges from 85° to 95° in the house, and placed in the direct rays of the sun for ten minutes, it ranges from 135° to 145°. From the middle of May until the commencement of the rains, light easterly winds prevail, the heat is oppressive during the day, and the nights are close and sultry.

Predominant winds.

Thermometer.

The rains commence about the middle of June, but there has been a peculiarity in the last two seasons. In 1836 the first heavy shower, we had, occurred on the 1st July, and this year we scarcely had a shower before the 7th of July; the regular rains terminated on the 7th of September in the former year, and this year the last shower, we had, was on the 8th September. In 1836 only 45 inches of rain fell during the twelve months, and this year, the fall of rain has been still more scanty, only 34 inches two-tenths have fallen; the quantity of rain of the present season, altogether, scarcely

Rains.

Winds. exceeds half of that of 1830, and 31. Easterly winds prevail, during the rainy season, and at this period the thermometer ranges from

Thermometer. 80° to 90° in the house.

Cold season. The cold weather begins about the middle of October—even before that period, the mornings and evenings are pleasantly cool; at this

Thermometer. season the thermometer ranges from 55° to 65°. The cold weather fogs are almost unknown, unless after a fall of rain, when we have them for a few mornings, but they rarely last beyond 9 or 10 o'clock. The coldest and clearest weather is, when the wind is from the

Winds. west or N. W.; the easterly winds at this season bring clouds and increase of temperature. From the middle of October, till the beginning of April, the weather is delightful in this part of Behar, dry, elastic and bracing; in January the grass about the station is covered with hoar-frost, and Europeans find fires in their chambers, and woollen clothes essential to their comfort; the natives enjoy neither luxury, and suffer dreadfully, during the night, from the cold.

General health amongst the Europeans in the district. Chuprah, regarded as a residence for Europeans, I consider remarkably healthy, very few cases of serious illness having occurred amongst the residents at the station, since I was appointed to it, in June 1826. In the district too, the general health among the European settlers is equally good, the planters expose themselves at all seasons, and although

they take a great deal of exercise in the sun, they retain their healthy European appearance, much longer here, than in any other part of India, that I have seen.

Chuprah might be rendered a more pleasant place of residence, particularly during the hot weather and rains, and much might be done to mitigate the harassing sensations of a high temperature; any improvement however could only be carried into effect by a rigid, though perhaps unpopular exercise of authority, on the part of Government; I could, with this end in view, condemn a vast number of trees, and root up all the bamboos now growing luxuriantly, within the precincts of the station. There can be nothing more unpleasant, or more prejudicial to health, than the stagnant atmosphere, we so frequently experience during the close, humid weather, in the rainy season, produced by the superabundance of mango groves, gardens and bamboos, in, and round the station. Trees are no doubt a great ornament, yet where they obstruct ventilation, they must be injurious, and bamboos engender swarms of vermin, reptiles, and insects, besides filth of every description, and serve as a nursery for frogs, and musquitoes.

Suggested improvements.

In the Sarun division of this district, which is in the highest state of cultivation, the general health of the native community, in ordinary years, is very good; epidemic small

General health amongst the natives.

pox, and cholera, almost every year, make their appearance in a greater or less degree; but I am not aware of any other general sickness, to which the inhabitants are subject.

Insalubrity. The Chumparun Division is very unhealthy, and from its proximity to the Tarai, it cannot be otherwise; the great quantity of waste lands, its numerous nullahs, and marshy jungles pregnant with miasma, must ever conduce to render Chumparun a hot bed of disease.

During this last season, the general health amongst the natives in both Sarun and Chumparun has been most deplorable, more especially in Chumparun, where villages have been almost depopulated. The cholera, small pox, and want of proper and nutritive food have fearfully increased the average rate of mortality; but it would be impossible, with the very imperfect knowledge, we possess of the statistics of the country, to state, with any degree of accuracy, what proportion the deaths of this year bear to those of past years: I should say, the mortality has perhaps been quadruple that of any ordinary season.

Tarai. At the conclusion of the Nepaul war, in 1815, the Government at one time, determined to insist, on the entire cession of the Tarai; the experience of a season's occupation of a considerable portion proved it of little value, and of extremely difficult management,

while the climate was so destructive, as to render the continuance of troops or civil officers, for one half of the year utterly impossible.

Climate of Chumparun.

Where Chumparun approaches the Nepaul Frontier, a large portion of the waste lands are covered with long grass, which is burned every year to improve the pasture; the grass is of a very bad quality, and the cattle, although plentifully supplied with it, are wretched to the last degree. Owing to the humidity of the atmosphere, and the geological difference in the soil, compared with Sarun, the fields preserve their verdure throughout the year; but the climates, which are the least favorable to the human constitution, are often the most so to vegetable productions, and this is markedly the case, in Chumparun; on the other hand, throughout the greater part of Sarun, in the dry season, the soil becomes exceedingly hard, and retains little moisture, so that in the hot weather, it is entirely destitute of vegetation.

Unhealthy seasons.

Drinking water.

The unhealthy season, in Chumparun, amongst the natives, commences in May, and at this time, in the northern parts, the drinking water becomes very impure, the numerous *Nullahs* swarm with animalculi, and the air, in their vicinity, becomes loaded with the poisonous gas exhaled, from vegetable and animal decomposition. The water in the *Denowtee*, (which is formed from a confluence

of a number of small hill streams) is said to be particularly obnoxious, when drank, producing fever, fluxes, goitre, and " all the ills that flesh is heir to." In the wells, the water contains a considerable quantity of saline matter; an English gallon was found to contain

Well water.

Sulphate of Soda, ... 26-4 grains
Muriate of Soda, ... 11-2 ditto
Nitrates and Carbonate of lime, 12-8 ditto

Total saline matter in solution, 50-2 per gallon.

The above sample was taken, in the month of April.

The chief exciting cause of the intermittent, and remitted fevers in Chumparun, there can be no doubt, is malaria, and that the moisture of the soil, the wastes, marshes, lakes, and jungles all concur in producing it. The nature of miasma is little known, it has by some been supposed to resemble heavy carbonated hydrogen gas, and to be incapable of rising high, in the atmosphere, and hence in low situations, intermittent and remittent fevers are found to be most prevalent. At the termination of the rainy season, it is supposed to be owing to the decomposition of animal and vegetable matter, and in the hot season, from that matter, being locked up during the cold weather, again being set free, and ripened into activity, by the heat of the sun; cold and moisture it has been said will not produce it; heat and

Malaria.

Properties of.

Sources of.

moisture in this country, we know to be its most common origin.

These effluvia are observed not to rise high, above the surface, and their effects to be avoided, by living in an elevated situation. It has been observed in the fenny counties in England, that those living in the attic stories escape, while those in the ground floor will be affected, and it is well known to every medical man, that all hours of the day or of the night are not attended with equal risk; the most dangerous time, it has been observed, is that which accompanies the setting, and that which precedes the rising sun; this circumstance seems to prove the union of miasmata with aqueous vapours rarified, in the middle of the day, by the heat; the elastic and lighter vapours must then occupy more space in the atmosphere, and the miasmata, which they carry with them, must also at such times be more widely diffused; we do not therefore inhale them, in so concentrated a degree, and consequently cannot in those hours be so much affected by them.

Union of miasma with aqueous exhalation.

When the army marched from Prome, on the 1st December 1825, the troops were exposed for several days, and nights, without tents, and obliged to *bivouac* on the ground; the consequence was, that a great number of the soldiers were attacked with remittent and intermittent fevers of the most malignant form, I ever witnessed. While in cantonments

the force had been pretty free from these diseases, but in the course of a week the field hospital was literally crowded, at the same time it must be remarked, that many of the men were suffering from debility, induced by former disease, fatigue, and the want of proper nutritious food, which rendered them particularly susceptible of the effects of miasma.

Predisposing causes of fever.

Soldiers in health and strength, consequently not predisposed to disease, might have escaped.

Low diet, bedding, &c.

When we reflect on the poor diet in common use amongst the great mass of the natives in Chumparun, their wretched clothing, habit of reposing on the ground, in their damp abodes, with scarcely a mat under them, we can be at no loss to account for their predisposition to disease of every kind, more particularly to the influence of malaria. Among the indigo planters, who reside in Chumparun, the effects of malaria are seldom felt, although their places of residence are generally situated close to lakes or nullahs. This can only be accounted for, by their living in a style directly opposite to that of the natives, to the superior comfort of their dwellings, the generous diet made use of by Europeans, and their sleeping on beds elevated from the surface.

Indigo Planters exempt from malaria.

The Native behind other nations in protecting them-

Experience does not appear to produce the same effect on the natives of India, that it does on the inhabitants of other nations, or it would

have taught them, long before this, how to defend themselves from the damp at night, and from the coolness of the morning. selves from the effects of malaria.

The evening dew is so much dreaded at Rome, that as soon as it begins to be perceived, the people shut themselves up in their houses; but the moment this first and copious precipitation of vapour, which generally accompanies the close of a hot day, seems to be over, they all sally forth again, and the streets are more crowded than ever. The people of Italy never go abroad, unless absolutely obliged, till after sunrise, when the heat has dispersed the pernicious vapours, that have fallen during the night.

The inhabitants in the Sarun division of this district, at some seasons, come in for their share of remittent and intermittent fevers, more particularly those residing in the vicinity of rice fields; the rice in this part of the country is all transplanted, and when we have a plentiful fall of rain in September, and October, the crops are very abundant; this has not been the case, for the last two years. These miry and slimy marshes, acted on by a powerful sun, in October, and November, produce profuse aqueous exhalations, and for a time spread pestilence in their localities. In the month of January, and sometimes even before that period, these fields are all dry and hard, in consequence of the premature cessation of the rains. Rice fields.

Prevalent diseases.

Amongst the natives, in this part of Behar, the cholera, either in its epidemic or *sporadic* form, is an yearly occurrence; it generally breaks out, during the intense heat in May or June, and ceases when the rains have set in. On a sudden or premature cessation of the rains, in September, or early in October, it some years makes its appearance a second time, and the havoc produced by it, in some seasons, is dreadful.

Cholera.

From the time of Sauvages much has been written on this formidable and destructive disease, its remote and proximate causes; but I fear we are as much in the dark as ever, on those points, notwithstanding the zeal, talent and science which have been displayed on the subject. In this country, new rice, sable fish, drought, dampness, electricity, and stagnant waters have all in their turn got the credit of producing the cholera; reports too on the state of the weather have afforded no clue to an explanation of the causes, which lead to the production and progress of the disease. When the epidemic first appeared at Chuprah, about 20 years ago, in the month of September, the weather is said to have been excessively hot and dry; the disease then raged with such frightful violence, that within six days 360 deaths were reported by the chowkeedars; the alarm, excited by the ravages of the disease, prevailed to such a degree, that the town was nearly deserted by

its inhabitants, who sought an asylum in the neighbouring groves and fields.

" Old men with feeble feet and tottering babes,
" New widows with their infants in their arms,
" Hurried along. Nor royal festival,
" Nor sacred pageant, with like multitudes,
" E'er filled the public way, all whom (disease)
" Had spared were here; bed-rid infirmity
" Alone was left behind; the cripple plied
" His crutches; with the child of yesterday,
" The mother fled; and she whose hour was come,
" Fell by the road."

At the same period, excessive rain and dampness, in Bengal, it was said, produced precisely the same effects.

Small pox.

Epidemic small pox comes next on the list of destructive diseases amongst the native community, and with the exception of cholera, perhaps there is no disease, to which they are subject, tends so much to " lighten the burden of a poor man's family."

State of vaccination.

At every civil station, in this presidency, I believe a vaccine depôt is now established, and native vaccinators appointed, but the people in this part of the country have hitherto, most assuredly, shewn themselves little sensible to the humane intentions of Government; whether this arises from their known apathy, ignorance, or prejudice, I am unable to say; every means has been taken to obtain their confidence, by making known to them the great benefit arising from vaccination, and

proclamations have been issued, throughout the town and neighbourhood, explaining the protecting powers of the virus, the native vaccinator has been encouraged to exert himself, by holding out to him prospects of an increase to his salary, as an incentive to his industry and zeal, still I regret to say, my hopes of disseminating the vaccine virus extensively, in this part of the country, have been sadly disappointed. Few of the inhabitants bring their children, of their own accord, to be vaccinated, the native vaccinator is obliged to go, from place to place, to seek for children, and vaccinate them at their own houses; occasionally children in my immediate neighbourhood are brought to me.

Dysentery and Diarrhœa.

Dysentery and diarrhœa are also very fatal diseases amongst the lower orders, produced by their habit of sleeping on the ground, exposed to the heavy dews at night, and to atmospherical vicissitudes, particularly at the close of the rainy season, when the days are still hot, and the nights cold; no doubt the indiscriminate habit of bathing among old and young, male and female, whether suffering from visceral derangement or not, must frequently contribute to the fatal result.

Bathing.

Goitre.

The goitre is exceedingly common amongst the inhabitants of this district, more particularly in Chumparun, where it is endemial; it is frequently seen of an enormous size, and occasions great deformity; by some it is attri-

buted to the atmosphere, and by others to the drinking water.

It has been observed that the inhabitants of districts, in Europe, abounding with saline springs are more frequently affected with the goitre than persons living in other situations, and the well water in Chumparun is known to contain a considerable portion of saline matter; this circumstance would appear to support the opinion, that the disease is caused by the saline nature of the water, which the inhabitants in that part of the district are under the necessity of using.

Jail and hospital.

The jail is situated on the left of the public road leading to the westward, and a little to N. W. of the town of Chuprah; it is brick-built, and of an oblong form, surrounded by a wall, 12 feet high; within this is another wall of the same height, and within those again are the wards. The extreme length within the outer walls is 184 yards, and the extreme breadth 104 yards. The situation on which the buildings are erected is rather low, rather under the level of the surrounding ground.

General health amongst the prisoners.

In ordinary seasons, the prisoners are very healthy, but this last year is certainly an exception. I do not consider this in any way to result from the construction of the jail, nor would it seem to be contingent on particular seasons, but to depend on an original and permanent cause: namely, the lowness of the site.

Hospital.

The Hospital is attached to the N. W. corner of the Jail, and consists of one ward, surrounded by a wall 12 feet high, enclosing a compound 54 yards long, and 44 yards broad; it has a verandah to the east and west, 4 yards in breadth; the floor of the ward is *pucka*, and measures about 30 yards by 9 yards.

The following table will shew the average number of prisoners, admissions into the Hospital, and mortality for 1836.

Return of the sick in the Jail Hospital at Sarun for 1836.

	Average number of Prisoners during the year.	Jany., Feby., March and April.				May, June, July and August.				Sept., Oct., Nov. and December.			
		Remaining 1st Jan.	Admitted.	Discharged.	Died.	Remaining 1st May.	Admitted.	Discharged.	Died.	Remaining 1st Sept.	Admitted.	Discharged.	Died.
Jail Hospital,	820	30	205	189	15	31	230	200	14	47	358	348	23

This year the average rate of mortality has been much greater.

TABLE I.

Shewing the Mortality amongst the different descriptions of Prisoners in the Sarun Jail for the year 1837.

Description of Prisoners.	Average No. in Jail.	Deaths from Ordinary Diseases.	Deaths from Cholera.	Ratio per Cent. of Deaths from Ordinary Diseases.	Ratio per Cent. of Deaths from Cholera.	General Ratio.
Hindoos, ...	669	81	28	12.10	4.18	14 79
Mussulmans, ...	71	17	4	23.94	5.73	15.49

Average Rates for 1837 from Ordinary Diseases, ...	13.24
Ditto ditto from Cholera, ...	4.32
General Average Rates per Cent.	17.56

TABLE II.

Classification of Deaths amongst the Prisoners in the Sarun Jail for 1837.

Civil Prisoners, ...	1
Prisoners exempt from labour, ...	9
Ditto ditto on Trial, ...	31
Prisoners sentenced to labour, ...	89
	130

TABLE III.

Shewing the Successive Periods of Imprisonment at which the deaths of 89 *Labouring Prisoners occurred, during* 1837, *in the Sarun Jail Hospital.*

During the first six months of Imprisonment,	43
During the remaining six months of the first year,	25
During the second year of Imprisonment,	10
Ditto third ditto ditto,	4
Ditto fourth ditto ditto,	3
Ditto fifth ditto ditto,	2
Ditto sixth ditto ditto,	1
Ditto twelfth ditto ditto,	1
Total	89

The prisoners in the Jail have participated largely, in the sickness, which has prevailed in an unusual, I may almost say unprecedented degree, throughout this district for the last eight months, and it can hardly be a matter of surprise, that the average mortality in the Hospital should exceed that of past years.

Site of the jail objectionable.

In Jails where men are crowded together, more particularly in low situations, there must be an accumulation of foul air to a certain extent, despite of drainage, and general cleanliness, and this animal effluvia, if not dissipated by free ventilation, becomes noxious and pestilential; the site of the Jail, I have above mentioned, is low and the walls surrounding it high, I am therefore disposed

to think, that the ventilation is not so perfect as it ought to be, indeed the wards can hardly be affected at all by the lower currents of air.

Sloughing ulcers.

A few months ago gangrenous ulcers prevailed to an alarming extent, and proved fatal in many cases; the smallest scratch on the leg became suddenly an extensive foul sore, and every remedy I could think of produced bitter disappointment for a time, nor did the disease abate, until the prisoners (at my request) were separated into different gangs, and sent out to work on the roads, and the patients in the Hospital removed, for change of air, into tents pitched at some distance from the Jail. The sores in every instance were on the legs, and produced by the bad construction, and coarse make of the fetters.

Bad construction of fetters.

The straight irons ought to be entirely abolished by an order of Government, and chains substituted. About two-thirds of the prisoners here wear straight irons, and I am quite certain the greater number of sores are produced by them; chains would afford equal security, the attainment of a greater amount of labour, and give much less bodily pain to the convict.

Prison discipline.

There are different wards for different descriptions of prisoners. The thug prisoners have a ward to themselves—those imprisoned without labour are separated from

the working prisoners, and those under trial are confined apart from the convicts.

Insufficiency of punishment.

The working prisoners are employed in repairing the roads, about the station, and its vicinity, and lately a few have been employed within the jail. In the present state of things they probably cannot be more usefully or beneficially employed, at the same time I think it very desirable, that some improvement should be made better calculated to promote the object of penal imprisonment, as well as to render the labour of convicts more productive, than the indiscriminate mode of employment hitherto observed.

Tread-mill.

The introduction of the tread-mill would probably be attended with good results, at all events it is worthy of a trial—the proceeds might go far towards defraying the expenses of the jail.

Classification of prisoners.

The classification of prisoners also demands the attention of Government.

This jail may be made capable of affording a classification, which is of paramount importance, as regards the morals and habits of the prisoners; at present, the distinction has reference merely to the court by which they have been sentenced, and not to the character and habits of the prisoners themselves,—we see the most vicious mingled with those, who probably have been imprisoned for a first

offence, and that perhaps comparatively a trifling one.

This pernicious contact must tend to render them as depraved, and hardened to every species of villainy, as their associates—again, no distinction is made between parties concerned in an affray, and those undergoing punishment for burglary and theft. In this district, parties concerned in affrays are frequently respectable land-holders, who have committed a breach of the law, in defending what they considered their rights ; to throw this class of prisoners amongst the most vicious and abandoned not only adds to the severity of the punishment, but tends to injure or entirely destroy the little moral character, they may possess.

Diet and the dieting.

The system of dieting the prisoners was introduced into this jail about six months ago, and at first I was disposed to think favorably of the change, but further experience has not tended to confirm the favorable impression. To prevent abuses on the part of the bunniah, the strictest daily supervision is requisite, as to the quality of the rations ; the quantity, is ample—the present allowance is rice 8 chuttacks, suttoo 4 chuttacks, dhall 2 chuttacks, wood $\frac{1}{2}$ pice worth, and salt $\frac{1}{2}$ pice weight. The wood allowed is not sufficient to enable each man to cook his rice separately, and the difference of caste is an impassable barrier to their cooking in messes. I am inclined to think the excess of bowel complaints, for some

months amongst the prisoners, is partly to be attributed to their eating food imperfectly cooked. The bunniah is obliged to contract on a large scale, and on several occasions has attempted to impose an inferior article on the prisoners ; this, and the new plan has created great discontent amongst the prisoners—further I do not think the principal objection to the money ration system has been got rid of—namely, their paying the guard for little indulgences, for it is well known the practice is still continued. The only difference being, that in place of pice they pay in food.

The very idea of having the disposal of his own pice has a moral, as well as a physical effect on the health of a prisoner ; with it he purchases to please his own taste, rice one day, ottah or suttoo the next, a small quantity of tobacco, which they all use, condiments, such as pepper of different kinds, *huldee* or any other little article, he may fancy. In the dieting system, he is obliged to eat the same food every day, or exchange it with a petty bunniah, for some other kind more suitable to his habit or health, sell it, which I am informed (with what degree of accuracy I am unable to say,) some of them do, and that for little more than one-half of the amount received by the jail bunniah, from Government, for feeding them.

With the former allowance of three bazar pice per day, they were content. The bunniah now receives from Government eleven

pie in Company's currency, which is four bazar pice or rather more, and there is nothing but dissatisfaction: the sooner the old plan is reverted to, the better, both on account of Government, and the health of the convicts.

Longevity.

From the circumstances of no records of births and death being kept in this country, it is impossible to form an accurate opinion on the subject of longevity amongst the native population; we occasionally see, some remarkable instances of very old looking men, bent double with years, but scarcely one of them can tell his age. I have known men, apparently 70 or 80 years of age, when asked how old they were, declare themselves not more than 25 or 30 years old, but generally when questioned regarding their age they state their utter ignorance on the subject. I have mentioned in another place in this paper, that we have no native practitioners of medicine of any repute, in the neighbourhood of Chuprah. In the conversations I have had with the *Hakeems*, they all professed the same doctrine, and staunchly supported the humoral pathology, and views of the *famous* philosopher Aristotle, that all diseases arise from heat or cold, and in accordance with this simple classification, prescribe their decoctions, infusions and lotions. In acute diseases their remedies are inert, and sometimes worse; for instance, when they think it necessary to open a vein, it is always done with the smallest possible orifice, so that the

Hakeems.

Low state of medicine.

blood may escape in drops, or in a stream about the size of a sewing thread, and when they think it necessary to have recourse to leeches, three or four are the most, they ever think of applying, more frequently, one or two: in their treatment of purulent ophthalmia, (a disease by no means uncommon among them at certain seasons,) their remedies consist entirely of decoctions of herbs. I have seen numerous instances of the loss of vision of one or both eyes, from their want of knowledge in the treatment of this disease.

Wretched state of surgery.

In surgery their notions are fully as crude and barbarous; for external bruises they seem to have only one remedy, rubbing the parts over with huldee, (turmeric) and cow dung; in external wounds their usual applications are opium, turmeric and lime, this forms a hard paste, which is allowed to remain, till the wound is cicatrized.

Among the numerous wounded men, who have been brought in, from the district, to be reported upon by me, I scarcely recollect a single case of death from excessive hemorrhage. I have seen three or four instances of men having a hand, or arms severed from the body, by one stroke of a sword, no ligature had been applied to the artery in these cases, or pressure of any kind, the effusion of blood was said to have been considerable at first, but was soon stopped by the application of a paste, composed of human

hair, opium, lime and pounded charcoal, this was laid over the surface of the stump, over which a piece of cloth was tied, and adhered with such tenacity, that it was detached with the greatest difficulty. The last case, I saw of this kind, was in the person of a stout, healthy Rajpoot, who had been engaged in an affray, and had got his left forearm completely severed by one blow from a sword; I did not see him, till the sixth day after he had been wounded; on removing the paste, I found the wound covered with healthy granulations, and the radius and ulna projecting a little, the projecting points of the bones mouldered away, and in less than a month the stump healed, in a conical shape.

Medicine.

The obstetric art is exclusively in the hands of the old women of the *chumar* caste; the chumines also prescribe for all female complaints, and get the credit of being very expert in procuring abortions; this crime I believe to be carried to a considerable extent, between 20 and 30 of these women are in practice in Chuprah.

Game and wild animals.

With the exception of quail in the dry season, and a few snipe, there is no game in the neighbourhood of Chuprah to invite the sportsman to the field, the country is so well cultivated, and free from jungle, that it affords game no protection in the breeding season. Far to the northward and westward, near the border of Goruckpore, there is abundance of

game of every kind; to the north in Chumparun, black partridges and hares are pretty plentiful, and in the Tarai, the industrious sportsman may be rewarded with a few tigers, bears, wild buffaloes, and deer; florikin, and every species of smaller game are also to be found there, in great numbers, but the pursuit is attended with considerable danger, after the month of March; in April, the unhealthy season commences in the Tarai. The jeels furnish wild ducks and teal abundantly, as also most other species of water fowl.

Poultry.

Poultry is rather dear at Chuprah, when compared with other stations, and it is some times difficult to be procured; this vicinity is almost entirely supplied with turkies and capons from Bettiah, a distance of 70 miles, they are reared there in considerable numbers, by the native Christians.

Supplies for the table.

The European residents at the station however can always get supplies for the table of every kind from Dinapore, which is only one night's dâk from Chuprah.

The most common trees to be found in this district are the mango, toddy, peepul, burr, or banyan tree, which sometimes grows to a great height, and is frequently to be met with covering two or three beeggahs of ground; the scissoo, mowah, toon, tamarind, and the jack fruit tree, &c.

Trees.

The most common timber used for building purposes is the saul, which is procured from the Goruckpoor jungle.

Several kinds of acacia are also to be found; —that, from which the *(kut,h)*, extract of catechu is procured, grows in immense forests on the western parts of the district; the extract forms an article of commerce, and is of the yellowish brown kind; the tree is called by the natives *kaira*; they obtain the extract by macerating the wood in holes or pits, previously having cut it into small pieces; after maceration is completed, the water is taken out, boiled and evaporated, the first of the operation exactly resembles the tanners' process with the oak bark in England.

Gum trees.

Garden trees.

Fruit trees of all kinds thrive in the gardens; the English apple, and vine are in profusion, the greengage plum, although not equal to the flavour of the fruit in its native soil, is far superior to the common country plums—the peach, pear, mango and all the indigenous fruit trees flourish, the soil being very favorable for gardens, and the trees are not subject to canker of any kind.

The medicinal plants, that I am acquainted with, indigenous to this part of the country, are not numerous.

Medicinal plants.

The poppy I have mentioned in another place; the madar is exceedingly common, in

every direction, and attains the height of four or five feet.

The castor oil plant is extensively cultivated, and the sonballi or croton plant may also occasionally be seen.

Currency.

There are four kinds of pice current in this district.

1st. The Chuprahah, peculiar to Chuprah, and its immediate neighbourhood.

2d. The Goruckpooree, coined in the Goruckpoor district.

3d. The Butowleah, deriving their name from Butool or Butowl in Oude, from whence they were originally transmitted.

4th. The new pice issued by the Company.

The Loteah pice or coin of Nepaul is also occasionally met with, but in such small quantities, that it has no fixed value, and cannot therefore well be taken into consideration.

The rates at which each are procurable in the bazar, are the following :

Description of Pice.	For Co.'s Rs.		For Sa. Rs.	
	To purchase from a banya.	To sell to a banya.	To purchase from a banya.	To sell to a banya.
Chuprah, ...	82	83	90	91
Gorruckpoor and Butowleah, ...	80	81	88	89
Company's,.....	63	64	69	70

The extent of circulation of each varies according to the number of pice obtainable in exchanges, the Chuprahah being most in demand ; the Goruckpooree and Butowleah the next, about $\frac{1}{32}$ less than that of the Chuprahah, and the Company's the least. I have not been able to ascertain accurately the dates, since which the present coins have been in use, but all agree in stating that no others, with the exception of the Tirsoolies, have been current in this district, within the recollection of the present generation ; as to the channel through which they have been brought into circulation—the Chuprahah are the produce of private mints in Chuprah, or its immediate neighbourhood, and the Goruckpooree and Butowleah, not being regular Government coins, there can be as little doubt have found their way into the district, by remittances, on account of private indi-

Extent of circulation of the different pice.

viduals, or in the general course of trade with those parts of the country, from which they were originally transmitted. But of the Company's pice I am assured, that private remittances are never known to have been made, and that the few now current, are those issued by the Government, through the medium of the Collector's office, and this supposition is, I think fully borne out, by the low rate of exchange, and the small extent of their circulation.

The same coins are in circulation throughout Sarun; they may probably be known by different names, in different places, and there may be some slight difference in their rates, as the distance from Chuprah is less or greater, but the coins are in fact the same, and bear about the same proportion to one another, in the extent of their circulation; the Company's new pice are probably still less frequently met with, than in the principal bazars.

Currency in Chumparun.

In Chumparun, none of these coins are current to any extent. The Lohea pice issued in large quantities by the Nepaulese, and spread over Chumparun, by means of their extensive traffic with that part of the district, have, for an indefinite period, been the only coin in use, on the other side of the Gunduck, and there I am assured the Company's pice are almost totally unknown.

Exchange.

In exchange the value of these pice is less, than many of the others, and has fluctuated

during the last four and half years, from 101 to 111 for the sicca, and 98 to 104 for the Company's rupees.

Wages for labour paid in the common pice.

Daily labourers are always paid with the common bazar pice; in Sarun with the Chuprah or Goruckpooree, and in Chumparun with the Lohea; they receive six per day at Chuprah, and in the Mofussil four pice.

In exchange for whole rupees, the banyas always charge an arbitrary batta, varying from two to ten pice.

Batta.

The only small silver coins in circulation, in the district, are the sicca, and Company's eight, and four anna pieces. In exchange for whole rupees, I have known the small coins at a premium.

Gold mohurs.

Both the old and new gold mohurs are current, but the old has the greater circulation; the prices fluctuate from 16 rs. 8 as. to 18 rs. 8 as.—Except in the large towns, the gold mohurs are not in general circulation; they are principally monopolized by the bankers, and other wealthy people, and I believe a considerable destruction of this coin takes place, in making native ornaments.

FINIS.

G. H. Huttmann, Bengal Military Orphan Press.